

AMENDMENTS TO THE CLAIMS

This Listing of Claims will replace all prior versions, listing, of claims in the specification.

LISTING OF CLAIMS:

Claim 1 (original) A light-emitting diode device, said light-emitting diode device comprising:

a substrate;

a multi-layer compound semiconductor structure having a rhombus shape on said substrate, wherein one pair of parallel sides of said rhombus shape are parallel to a easy crack direction of said substrate; and

a first electrode and a second electrode on two ends of the longer diagonal of said rhombus shape respectively.

Claim 2 (original) The light-emitting diode device according to claim 1, wherein said substrate comprises a sapphire substrate.

Claim 3 (original) The light-emitting diode device according to claim 1, wherein said multi-layer compound semiconductor structure comprises:

a first doped semiconductor layer with a first conductivity type on said substrate;

an active light-emitting layer on said first doped semiconductor layer;

a second doped semiconductor layer with a second conductivity type on said active light-emitting layer;

a transparent conductive layer on said second doped semiconductor layer;

trench on one end of the longer diagonal of said rhombus shape, said trench has a predetermined depth in said first doped semiconductor layer to accommodate said second electrode to connect said first doped semiconductor layer, and expose a portion of said second doped semiconductor layer, a portion of said active light-emitting layer and a portion of said first doped semiconductor layer; and

a dielectric layer covering said transparent conductive layer, said exposed portion of said second doped semiconductor layer, said exposed portion of said active light-emitting layer and said exposed portion of said first doped semiconductor layer to isolate said first electrode and said second electrode.

Claim 4 (original) The light-emitting diode device according to claim 3, wherein said first doped semiconductor layer and said second doped semiconductor layer comprise III-V group semiconductor layers.

Claim 5 (original) The light-emitting diode device according to claim 3, wherein said first doped semiconductor layer and said second doped semiconductor layer comprise doped GaN semiconductor layers.

Claim 6 (original) The light-emitting diode device according to claim 3, wherein said dielectric layer comprises a silicon dioxide layer.

Claim 7 (original) The light-emitting diode device according to claim 3, wherein said dielectric layer comprises a silicon nitride layer.

Claim 8 (original) The light-emitting diode device according to claim 3, wherein said dielectric layer comprises a transparent polymer layer.

Claim 9 (original) The light-emitting diode device according to claim 3, wherein said first doped semiconductor layer and said second doped semiconductor layer comprise a N type doped semiconductor layer and a P type doped semiconductor layer.

Claim 10 (original) The light-emitting diode device according to claim 1 further comprises two bumps formed on said first electrode and said second electrode respectively for flip chip package processes.

Claim 11 (original) The light-emitting diode device according to claim 1 further comprises two bumps formed on said first electrode and said second electrode respectively for surface mounting technologies.

Claim 12 (original) The light-emitting diode device according to claim 1 further comprises adhesive conductive films on said first electrode and said second electrode respectively for flip chip package processes.

Claim 13 (original) The light-emitting diode device according to claim 1 further comprises adhesive conductive films on said first electrode and said second electrode respectively for surface mounting technologies.

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Claims 14-27 (canceled).